



STATUS REPORT FOR FUMIGANT PESTICIDES

April, 2005

I. SCHEDULED AIR MONITORING

The Department of Pesticide Regulation (DPR) has initiated a monitoring study to determine the relative emission rates of fumigants and check the effectiveness of buffer zones. DPR will monitor selected fumigations that use more than one fumigant and/or use an application method for which little or no monitoring has been conducted previously. The protocol for this study is available at the following Web page:

<http://www.cdpr.ca.gov/docs/empm/pubs/protocol/prot212.pdf>

DPR has requested that the Air Resources Board (ARB) conduct ambient air monitoring for 1,3-dichloropropene and methyl bromide in 2005, for the toxic air contaminant program. DPR may also request additional ARB monitoring for sulfuryl fluoride.

DPR will monitor for multiple pesticides including several fumigants in Parlier (Fresno County) as part of Cal/EPA's environmental justice action plan. DPR will conduct ambient air monitoring at several locations in Parlier for one year, likely beginning this summer. Additional information on the environmental justice action plan and the basis for selecting Parlier for monitoring is provided at the following Web page:

http://www.cdpr.ca.gov/docs/envjust/pilot_proj/index.htm

II. ACUTE BUFFER ZONE MODELING

DPR utilizes a standard methodology to calculate buffer zones for acute exposures. Fumigant pesticide registrants and some grower groups have suggested some specific refinements to the current modeling methodology that they believe will improve the procedure and incorporate local information and more representative meteorological conditions. Industry has proposed an alternative approach to DPR's modeling procedures. Their approach would incorporate historical weather data, revising the method to estimate flux and the method to determine the size of buffer zones. The alternative approach would be utilized by the industry at their discretion in specific areas. The standard DPR model would remain in place statewide. In June 2004, DPR received industry's draft results of using their methodology to identify regions of the state with comparable weather conditions through statistical analysis. DPR staff is reviewing the draft results.

III. METHYL BROMIDE

1. Risk Assessment/Data Evaluation

The completed methyl bromide risk characterization document is available at:



http://www.cdpr.ca.gov/docs/methbrom/riskasses_fum.htm

2. Risk Management Status

- Information on the methyl bromide regulatory issues is found at the following DPR Web site:
http://www.cdpr.ca.gov/docs/dprdocs/methbrom/fum_regs.htm
- On December 2, 2004, DPR regulations were challenged by a suit filed in San Francisco Superior Court. The Environmental Defense Center and two individuals allege:
 - that DPR did not use the recommendation of the Office of Environmental Health Hazard Assessment;
 - that County Agricultural Commissioners' discretion in setting buffer zones is an underground regulation;
 - a lack of clarity on respiratory requirements and methods to ensure the performance standard for air concentrations.

3. Critical Use Exemption Under the Clean Air Act

- The Parties to the Montreal Protocol granted critical use exemptions (CUEs) to the U.S. for 35% of its baseline for 2005. At a December 2004 meeting of the Parties, the U.S. secured an additional 2.5% of baseline for 2005. The U.S. also received a CUE for new production in 2006 of 27% of the historic baseline, and received interim approval for another 10% of baseline pending a rereview of the international level in June 2005. U.S. EPA has issued a rulemaking for allocating CUEs among methyl bromide users in December 2004.

IV. **1,3-DICHLOROPROPENE**

- DPR continues to use the California Management Plan: 1,3-Dichloropropene (1,3-D) to manage the use of 1,3-D throughout California.
- Information on the California Management Plan: 1,3-Dichloropropene is found at the following DPR Web site:
<http://www.cdpr.ca.gov/docs/dprdocs/methbrom/telone/mgmtplan.pdf>
- Enforcement Letter, ENF 02-37 Recommended Permit Conditions for Using 1,3-D Pesticides (Fumigant) provides guidance to county agricultural commissioners and is posted on DPR's Web site at:
<http://www.cdpr.ca.gov/docs/enfcmpli/penfltrs/penf2002/2002menu.htm>

V. CHLOROPICRIN

1. Risk Assessment/Data Evaluation

- DPR received a study report from ARB on application site monitoring done during a bed fumigation in 2003. The study report is posted on DPR's Web site at: <http://www.cdpr.ca.gov/docs/empm/pubs/tac/tacpdfs/chloric03.pdf>. DPR requested that ARB conduct monitoring for an application site in 2004.
- On October 16, 2001, DPR placed all products containing chloropicrin into reevaluation. The reevaluation is based on data submitted under the Birth Defect Prevention Act. These data indicate that chloropicrin has the potential to cause adverse health effects at low doses. Air monitoring data submitted by the Chloropicrin Manufacturers Task Force indicate that the air levels of chloropicrin at some distances from treated greenhouses or fields could exceed the NIOSH standard of 0.1 ppm. Under the reevaluation, chloropicrin registrants are required to submit: (1) worker exposure studies for each type of chloropicrin fumigation site, and (2) ambient air quality monitoring and flux measurements from field and greenhouse applications, if methods other than the ones for which DPR already has data are to be employed. DPR received studies from registrants on December 8, 2004.
- Chloropicrin is currently in the risk assessment process.
- DPR is coordinating certain aspects of the exposure and risk assessments (e.g., study evaluations) with U.S. EPA.

VI. MITC GENERATING COMPOUNDS

1. Risk Assessment/Data Evaluation

- The completed MITC risk characterization document is available at: <http://www.cdpr.ca.gov/docs/empm/pubs/tac/finlmenu.htm>

2. Risk Management Status

- On December 2, 2002, DPR issued a public document that outlines its risk management decision.
- DPR listed MITC and other compounds that generate MITC as toxic air contaminants.

- On April 9, 2004, DPR issued a memorandum that outlines its risk management decision to mitigate acute, subchronic and chronic occupational exposures.
- Based on discussions in July 2004, U.S. EPA and DPR agreed to collaborate on the development of mitigation measures. DPR will coordinate its release of a mitigation proposal concurrent with U.S. EPA's management proposal. In the interim, DPR staff are reviewing planned stewardship activities and proposals from the Metam Sodium Task Force.

VII. SULFURYL FLUORIDE

1. Risk Assessment/Data Evaluation

- Sulfuryl fluoride is currently in the risk assessment process. Because DPR has identified sulfuryl fluoride as a potential toxic air contaminant under AB 1807, a draft risk characterization document was posted for public comment in September 2004. A public workshop on the risk assessment was held September 17, 2004. DPR anticipates presenting this assessment to the Scientific Review Panel in the summer of 2005.
- ARB monitored two structural fumigations in 2004. ARB should complete the monitoring report in 2005.
- DPR and ARB met with the registrant (May 2004) to discuss their plan to modify the current aeration procedure for structural fumigation. The registrant plans to conduct air monitoring during the development of the new procedure; co-sampling by ARB was also discussed.
- In February 2004, DPR received an application requesting registration of sulfuryl fluoride for use on a wide range of food commodities, such as dried fruits, almonds, walnuts, and other tree nuts, cereals and small grains, and cereal and small grain processed products in California. The applicant appears to have met the requirements for registration and DPR anticipates registering sulfuryl fluoride; however, additional mitigation measures will be implemented to reduce the potential health risks to nearby residents from short-term off-site exposures from grain processing and commodity-treatment facility fumigations. Mitigation measures will also be implemented to reduce longer-term (e.g., seasonal) off-site exposures from commodity-treatment facility fumigations. DPR filed an emergency regulation with the Office of Administrative Law to designate sulfuryl fluoride as a California restricted pesticide in section 6400(e). This designation provides an immediate and effective mechanism that allows county agricultural

commissioners to implement feasible mitigation measures through permit conditions.

VIII. POTENTIAL NEW FUMIGANTS/FUMIGANT ALTERNATIVES

- DPR has received applications from Arvesta, formerly Tomen Agro, to register products containing the active ingredient iodomethane (methyl iodide). DPR and the U.S. Environmental Protection Agency are conducting a joint review of the off-site air monitoring data.

DPR has issued a notice initiating the risk assessment for iodomethane and it is available at the following Web site:

<http://www.cdpr.ca.gov/docs/canot/ca2004-9.pdf>

DPR has received and reviewed off-site and worker exposure studies of methyl iodide by Arvesta.

IX. U.S. ENVIRONMENTAL PROTECTION AGENCY ACTIVITIES

The U.S. Environmental Protection Agency (U.S. EPA) is conducting parallel risk assessments for methyl bromide, chloropicrin, 1,3-dichloropropene, metam sodium, dazomet, and iodomethane. DPR is assisting U.S. EPA with computer modeling to estimate bystander exposures. DPR participated in a series of meetings with U.S. EPA's Scientific Advisory Panel to discuss several modeling approaches. Descriptions of the modeling approaches and other documents pertaining to the Scientific Review Panel meetings are posted to the following Web page:

<http://www.epa.gov/scipoly/sap.index.htm>

X. VOLATILE ORGANIC COMPOUNDS

Volatile organic compounds (VOCs) contribute to the formation of tropospheric ozone, which is harmful to human health when present at high enough concentrations. Many active and inert ingredients in pesticide products are VOCs. The federal Clean Air Act requires each state to submit a state implementation plan (SIP) for achieving and maintaining federal ambient air quality standards including the standard for ozone. The 1994 SIP requires a 12 percent reduction in pesticidal VOC emissions by 1999 in the San Joaquin Valley and a 20 percent reduction by 2005-2010 in four other areas of the State. U.S. EPA has established a more stringent ozone standard that will require additional VOC reductions from all sources, including pesticides. ARB and DPR will develop a new SIP that contains an element describing additional VOC reductions from pesticides. DPR estimates that 50-60 percent of VOC emissions from pesticides are due to fumigants. In May 2004, the Association of Irrigated Residents and others filed a lawsuit

against DPR and ARB alleging that the 1994 SIP provisions are not being met. In January 2005, ARB approved funding for two research studies. One study by Dr. Scott Yates will evaluate alternative fumigation methods to reduce VOC emissions. A second study by Dr. Bill Carter will determine the reactivity (ability to create ozone) of several pesticides, including some fumigants.